

WHAT IS CLAIMED IS:

1. A small-sized hinge device for connecting a first member and a second member rotating relatively to each other, comprising:
 - 5 a case body with baffle means mounted in one of the two members;
 - a fixed cam provided inside said case body;
 - a shaft arrested by said case body, one end thereof passing through said fixed cam along its axial direction and said case body along its axial direction;
 - 10 an arresting body disposed in the other end of said shaft and attached to the other one of the members;
 - a cam slider disposed to face said fixed cam and to slide in an axial direction of said shaft with the rotation thereof being arrested by said shaft; and
 - 15 a compression spring interposed resiliently between said cam slider and said arresting body.
2. A small-sized hinge device for connecting a first member and a second member rotating relatively to each other, comprising:
 - 20 a case body with baffle means mounted in one of the two members;
 - a fixed cam provided inside said case body;
 - a shaft arrested by said case body, one end thereof passing through said fixed cam along its axial direction and said case body along its axial direction;
 - 25 an arresting body disposed in the other end of said shaft and attached to the other one of the members;
 - a cam slider disposed to face said fixed cam and to slide in an axial direction of said shaft with the rotation thereof being arrested by said shaft;
 - a compression spring interposed resiliently between said cam slider and
 - 30 said arresting body; and
 - a slider washer provided on a portion of the shaft engaging with the case

body.

3. A small-sized hinge device according to Claim 1 or Claim 2,
 wherein said fixed cam is constituted independently of said case body
 5 and accommodated in said case body with the rotation thereof arrested by said
 case body.

4. A small-sized hinge device according to Claim 1 or Claim 2,
 wherein a cam portion disposed in said fixed cam is composed of a
 10 concave portion, a first inclined portion forming the concave portion and having
 a large and steep slope surface, a long and gentle inclined plane portion
 provided adjacent to the first inclined portion, and a second inclined portion
 provided adjacent to the inclined plane portion forming the concave portion and
 having another small and steep slope surface, and
 15 wherein a convex portion of said cam slider contacting the cam portion
 by pressure drops inside the first inclined portion of said fixed cam when the
 first member and the second member are in a closed state, and by opening both
 of the first member and the second member relatively to each other, it escapes
 from the first inclined portion of the concave portion to move down along the
 20 gently inclined plane portion, and when they are opened at an angle close to the
 maximum opening angle, it drops inside the concave portion from the second
 inclined portion.

5. A small-sized hinge device according to Claim 4,
 25 wherein the convex portion of said cam slider drops in the first inclined
 portion just before the first member and the second member are closed relatively
 to each other.

6. A small-sized hinge device according to any one of Claim 1 to Claim
 30 5,
 wherein the first member and the second member are a transmitting

section and a receiver section of a portable telephone respectively.

2011-01-11 11:11:11